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Title:

FLEXIBLE POUCH WITH TEAR LINE

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CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a national phase filing of PCT/EP2004/006642 filed June 18, 2004 claiming priority to FR 0307489 filed June 20, 2003.

TECHNICAL FIELD

[0002] The present invention relates to a flexible pouch especially for packaging foodstuffs and having at least one line of preferential tearing.

BACKGROUND OF THE INVENTION

[0003] It is known to use flexible pouches for packaging moist foodstuffs, especially for animals.

[0004] In particular, WO 98/29312 discloses such pouches. The pouches have two rectangular side walls secured by sealing along their edges. The pouches are sealed closed after filling. These side walls are made from films having a particular structure because of the treatments of sterilization by heating in a moist atmosphere and under pressure to which the pouches are subjected. Typically, such a film comprises a polyethylene terephthalate (PET) layer defining the outer layer of the pouch and a polypropylene (PP) layer defining the inner layer of the pouch and an aluminium layer sandwiched between the two previous layers.

[0005] This type of pouch is difficult for the user to open without resorting to scissors or a knife, because of the mechanical strength of the films forming it.

[0006] In order to make them easier to open, this document proposes producing one or two parallel lines of preferential tearing in each side wall of the pouch in the upper part of the pouch, the line(s) of preferential tearing of the first side wall being substantially superimposed with that (those) of the second side wall. The line(s) of preferential tearing of each side wall extend over virtually the entire width of the pouch.

[0007] Because the side walls are preweakened along the lines of preferential tearing, the user may open the pouch with only his hands by tearing the pouch in the region of the lines of preferential tearing. The user initiates the tear from a side edge of the pouch, then

continues tearing towards the other side edge. The tear propagates along the line of preferential tearing in each side wall when there is only one of them per side wall or along one of the two or between the two when there are two of them per side wall. Thus the lines of preferential tearing guide the tear up to the other side edge of the pouch.

[0008] Where each side wall of the pouch has two parallel lines of preferential tearing, a notch is made in at least one side edge at a level between the two lines for the purpose of making it easier to initiate the tear through the lateral seal.

[0009] In practice, the height of the upper seal on such a pouch is limited to save on a material. Further, the line(s) of preferential tearing are placed in an upper region of the pouch to allow the pouch to be opened from the top while avoiding accidentally spilling its contents while the pouch is being opened. However, the line(s) of preferential tearing is/are arranged at a certain distance from the top seal of the pouch to enable the user to grasp that part of the pouch extending above the lines of preferential tearing with his fingers when opening the pouch, this part then being detached from the pouch.

[0010] Nevertheless, it sometimes happens that during the opening operation, the tear leaves the line of preferential tearing when there is only one per side wall or the zone defined by the two parallel lines of preferential tearing when there are two of them per side wall. The tear may then propagate towards the bottom of the pouch and there is a risk that the foodstuffs may be accidentally spilled during opening.

[0011] Furthermore, before opening the pouch, the user is recommended to shake the pouch by holding it at the top so as to make any foodstuffs that may be present in the top of the pouch in the zone of the lines of preferential tearing go down. Alternatively or additionally, the user may also smooth the upper zone of the pouch between his fingers from the top downwards for the same purpose. Thus, the foodstuffs are found below the level of the lines of preferential tearing. Without carrying out this prior operation, it is not very probable that the tear for opening the pouch will propagate effectively along the lines of preferential tearing, due to the presence of foodstuff at the line of preferential tearing. Additionally, there is a danger of the user being spattered by the food content present at the lines of preferential tearing, even when opening is done correctly. These problems are particularly significant when the pouch contains moist foodstuffs - or other solid moist products - as they have a tendency to stay at the top of the

pouch even if it is held vertically, unlike dry foodstuff or liquid. Nevertheless, this operation prior to opening the pouch may be felt to be tedious by the user. Moreover, it has been found that the user often forgets to carry out this prior operation before tearing the pouch for opening.

[0012] EP-A-0,473,517 and EP-A-0,596,747 each disclose a pouch with lines of preferential tearing arranged similarly to those in the document above and having the same disadvantages.

[0013] The aim of the invention is to at least partially reduce one and/or the other of these drawbacks.

[0014] The invention particularly aims to provide improved guiding of the tear when the pouch is opened by the user.

BRIEF SUMMARY OF THE INVENTION

[0015] For this purpose, the present invention provides a flexible pouch comprising:

[0016] two side walls rendered integral by at least a sealing line; and

[0017] a line of preferential tearing provided in one of the two side walls,

[0018] in which the line of preferential tearing extends along the sealing line, the distance between the line of preferential tearing and the sealing line being less than or equal to 10 mm.

[0019] In preferred embodiments, the pouch can comprise one or more of the following features:

[0020] - the distance between the line of preferential tearing and the sealing line is less than or equal to 8 mm, preferably to 6 mm, more advantageously to 4 mm, even more advantageously to 2 mm, even to 1 mm.

[0021] - the line of preferential tearing extends facing at least one edge of the pouch.

[0022] - the distance between the line of preferential tearing and a pouch edge nearest the line of preferential tearing is greater than 9 mm.

[0023] - the pouch edge facing the line of preferential tearing and which is the closest to the line of preferential tearing is the upper edge of the pouch.

[0024] - the sealing line is provided along the upper edges of the side walls.

[0025] - the line of preferential tearing extends from an edge of the pouch.

[0026] - the edges of the walls corresponding to the said edge of the pouch from which the lines of preferential tearing extend are sealed together and a notch is made in the sealing zone of the said edges of the walls at the line of preferential tearing.

[0027] - the side edges of the walls corresponding to the said edge of the pouch from which the line of preferential tearing extends are sealed together and a notch is made in the sealing zone of the said edges of the walls at a level intermediate between the line of preferential tearing and the sealing line, preferably half way between the line of preferential tearing and the sealing line.

[0028] - the distance between the edge of the sealing line towards the line of preferential tearing and the edge of the pouch facing which the line of preferential tearing extends and which is the closest to the line of preferential tearing, is greater than 9 mm.

[0029] - the pouch edge from which the line of preferential tearing extends is a side edge of the pouch.

[0030] - the line of preferential tearing extends to a second edge of the pouch.

[0031] - the edges of the walls corresponding to the second edge of the pouch are sealed together.

[0032] - the second edge of the pouch to which the line of preferential tearing extends is a second side edge of the pouch.

[0033] - the pouch comprises another line of preferential tearing provided in the other of the two side walls, this other line of preferential tearing lying opposite the line of preferential tearing provided in the first of the two side walls.

[0034] - the pouch comprises a second line of preferential tearing provided in the side wall in which the first line of preferential tearing is provided, the second line of preferential tearing extending parallel to the first line of preferential tearing, the distance between the two lines of preferential tearing being less than or equal to 8 mm.

[0035] - two other parallel lines of preferential tearing are provided in the other of the two side walls, the two other lines of preferential tearing extending opposite the two lines of preferential tearing provided in the first of the two side walls.

[0036] - each side wall is made from a film comprising a light-metal layer held between two plastic layers.

[0037] - the width of the sealing line is greater than 9 mm.

[0038] - the pouch comprises several sealing lines forming a multi-line sealing strip, the width of this strip being greater than 9 mm.

[0039] - the or each sealing line is either heat welded, or produced by ultrasound welding.

[0040] - the pouch is sealed against gas.

[0041] - each side wall in which is provided a line of preferential tearing is made from a film comprising at least one plastic layer.

[0042] - the pouch is of the type intended to undergo heat treatment for preservation treatment.

[0043] - the line of preferential tearing(s) is/are arranged for providing access to a content packaged in the pouch upon tearing the pouch along the line(s) of preferential tearing.

[0044] The invention also relates to the use of the pouch for packaging foodstuffs, particularly of the moist type and/or of the loose-product type.

BRIEF DESCRIPTION OF THE DRAWINGS

[0045] Other features and advantages of the invention will become apparent on reading the following description of a preferred embodiment of the invention, given by way of example and with reference to the appended drawings.

[0046] Figures 1a, 1b and 1c show a package of the pouch type seen from the front, in cross section and in three-quarter perspective, respectively.

[0047] Figure 2 shows a side wall of the pouch of Figure 1 with the sealing zones, the side wall having a single line of preferential tearing according to the invention.

[0048] Figure 3 is a partial view of the side wall of the pouch showing how to measure the distance between a line of preferential tearing and a sealing line when the line of preferential tearing consists of oblong holes.

[0049] Figure 4 is a view of a side wall of the pouch with its upper part removed by tearing along the line of preferential tearing so as to illustrate another way to measure the distance between a line of preferential tearing and a sealing line.

[0050] Figure 5 shows a side wall of the pouch of Figure 1 with the sealing zones, the side wall having two lines of preferential tearing according to the invention.

[0051] Figure 6 shows the partial opening of a pouch corresponding to Figure 5.

[0052] Figure 7 is a partial view of the pouch corresponding to Figure 5 with the upper edge not sealed.

[0053] Figure 8 is a partial view of the side wall of the pouch showing how to measure the distance between two lines of preferential tearing when they consist of oblong holes.

[0054] Figure 9 is a partial view of a side wall of the pouch with its upper part removed by tearing along the two lines of preferential tearing so as to illustrate another way of measuring the distance between two lines of preferential tearing.

[0055] Figure 10 shows a side wall of a pouch according to an alternative embodiment.

DETAILED DESCRIPTION OF THE INVENTION

[0009] The invention relates to a flexible pouch having two side walls sealed together along at least one line. The pouch comprises at least one line of preferential tearing in at least one of the side walls. According to the invention, the line of preferential tearing extends close to the sealing line along the latter, preferably parallel thereto. More particularly, the line of preferential tearing is advantageously placed at a distance less than or equal to 10 mm from the sealing line.

[0056] The closeness of the line of preferential tearing to the sealing line substantially improves the guiding of the tear along the line(s) of preferential tearing or between them when the pouch is opened by a user. This improvement results from the fact that the sealing line joining the two side walls of the pouch together gives increased stiffness to the neighbouring zone of the pouch in comparison with the zones of the pouch further away from the sealing zone.

[0057] Furthermore, where the two side walls each have at least one line of preferential tearing which substantially correspond to each other, the two side walls in the zone of the lines of preferential tearing remain close to each other. Consequently, the corresponding lines of preferential tearing of the two side walls are also close, which has the effect of promoting the guiding of the tear along the lines of preferential tearing.

[0058] Moreover, when the line(s) of preferential tearing extend(s) from one side edge of the pouch towards the other, in particular along a sealing line made along the upper edge of the pouch and when it contains loose products, in particular moist foodstuffs, merely taking the pouch vertically has the consequence of releasing the products contained close to the sealing zone downwards. Specifically, the product contents slide in the direction of the bottom of the pouch under the effect of their own weight and consequently the zone of the line(s) of preferential tearing is freed without any other user intervention. In particular, the user does not need to shake and/or to smooth the top of the pouch downwards before opening in order to release the product contents present in the zone of the line(s) of preferential tearing.

[0059] A preferred embodiment is now described in relation to Figures 1 and 2.

[0060] The pouch taken as an example is of the type known per se as "Doypack®", that is to say a wedge-shaped pouch with a surface forming a base allowing the pouch to stand upright.

[0061] It has two side walls 100, 101 facing each other and secured together along their side edges 2, 3 by sealing. The lower edges 4 of the side walls 100, 101 are connected together by a base 102 attached to the lower edges of the side walls by sealing. The base 102 allows the pouch to stand upright.

[0062] After filling, the pouch is closed by a seal 9 hermetically joining the two side walls 100, 101 along the upper edge 1 of the pouch.

[0063] As illustrated in Figure 2, one of the side walls has a line of preferential tearing 5 extending close to the sealing line 9 provided along the upper edge 1 of the pouch.

[0064] When the package is designed to contain foodstuffs, especially moist foodstuffs, the side walls of the pouch are preferably made from a film allowing the pouch to be subjected, after filling and sealing, to a preservation treatment, in particular heat treatments such as conventional sterilization, flash sterilization and pasteurization.

[0065] To this end, the side walls may be made from a multilayer film having a layer made from a light metal, preferably aluminium, sandwiched between two plastic layers.

[0066] The plastic layer defining the outer face of the pouch is preferably made of polyethylene terephthalate. It contributes to protecting the light-metal layer against mechanical stresses and also allows printing.

[0067] The light-metal layer forms a barrier to external gas, especially to oxygen and steam, in order to isolate the foodstuffs contained in the pouch.

[0068] The plastic layer defining an inner face of the pouch is preferably made of polypropylene (PP). It serves as a welding agent to allow the edges of the pouch to be sealed by welding. Furthermore, polypropylene gives mechanical strength to the pouch and also contributes to protecting the light-metal layer.

[0069] Optionally, the outer plastic layer comprises a polyamide (PA) layer located between the polyethylene terephthalate (PET) layer and the light-metal layer. Alternatively, it is the inner plastic layer which comprises a polyamide (PA) layer located between the polypropylene (PP) layer and the light-metal layer. Such a polyamide layer contributes to mechanically strengthening the pouch.

[0070] The various layers of the film are secured to each other using an adhesive coating between the various layers comprising the film.

[0071] The polyethylene terephthalate layer preferably has a thickness of between 10 and 20 μm.

[0072] The central aluminium layer preferably has a thickness between 7 and 12 μm.

[0073] The polypropylene layer preferably has a thickness between 30 and 100 μm, more preferably between 30 and 60 μm.

[0074] When it exists, the polyamide layer preferably has a thickness between 10 and 20 μm.

[0075] The sealing line 9 may be produced by any suitable technique.

[0076] In particular, it may involve heat sealing. In this case, it is advantageous to produce the sealing line 9 in the form of a heat-sealed strip having a relatively large width "b". This is because the sealing line 9 gives stiffness to the pouch in the neighbouring zone which stiffness is all the greater the wider the zone. Consequently, the guiding of the tear along the line of preferential tearing 5 is thereby improved. Moreover, in view of the closeness of the line(s) of preferential tearing to the sealing line 9 (as will be seen below), a greater width at this point enables the user to get a better grasp on the pouch at the seal, when opening the pouch. It is consequently advantageous for the sealing width "b" to be greater than or equal to 9 mm, preferably to 11 mm, more advantageously to 13 mm, or even 15 mm. As against this, it is preferable for the width "b" to be less than or equal to 30 mm, or even 25 mm, to limit the amount of film required to produce the pouch.

[0077] Regardless of the shape of the pouch and the arrangement adopted for the line of preferential tearing, it is to be understood that the width "b" satisfies, for each point or at least on average, any one of these preferred minimum limits over the whole length of the seal line facing the line of preferential tearing 5. It is even more advantageous for the width "b" to satisfy - for each point or at least on average - any one of these preferred minimum limits throughout the length of the seal line, i.e. from side edge 2 right up to side edge 3 in our example.

[0078] The sealing line 9 may also be made by ultrasound sealing as described, for example, in WO 00/20191. When the sealing line made by ultrasound or otherwise is of small width, for example about 1 mm, it is advantageous to make two or three – or even more – parallel sealing lines between those which define a multiline sealing strip of width "b" of minimal value as defined above in the case of heat sealing in the form of a single wide line. This plurality of lines has the effect of even further stiffening the pouch near these lines in a manner similar to the aforementioned heat sealing case.

[0079] In all cases, it is advantageous for the distance 'd' between line of preferential tearing 5 and the edge of the pouch closest to it – i.e. the upper edge of the pouch in our example - to be greater than 9 mm, preferably 11 mm, more advantageously 13 mm, or even greater than 15 mm, even when the sealing line or lines occupy a strip of width "b" less than the preferred minimum values. In effect, a distance thus defined allows the user to get a good grasp on the outer edge region of the pouch adjoining the line of preferential tearing during opening. On the other hand, it is preferable for distance 'd' to be less than or equal to 60 mm – more advantageously to 40 mm, or even to 30 mm - in order to limit the amount of film required to produce the pouch. Regardless of the shape of the pouch and the arrangement adopted for the line of preferential tearing, it is to be understood that the distance "d" between the line of preferential tearing and the edge of the pouch closest to it satisfies for each point or at least on average any one of these preferred minimum limits throughout that part of the length of this pouch edge which faces the line of preferential tearing. Similarly, it is to be understood that the distance "d" satisfies for each point or at least on average any one of these preferred maximum limits throughout that part of the length of this pouch edge which faces the line of preferential tearing.

[0080] The line of preferential tearing 5 extends close to and along the sealing line 9.

[0081] The term "line of preferential tearing" refers to any alteration to the structure of the film forming the side wall of the pouch along a given line and which weakens the film along this line with the effect that the film tears preferentially along this line. The weakening is preferably such that a user can tear the pouch along the line of preferential tearing by means of his hands without resorting to tools.

[0082] The line of preferential tearing 5 may be made by any suitable technique, especially those known in the prior art.

[0083] In particular, the alteration in the film structure may take the form of a succession of round or oblong blind holes along the line of preferential tearing to be defined, or be continuous in nature, that is to say in the form of a single notch or groove extending over the entire length of the line of preferential tearing to be defined.

[0084] For the type of film previously recommended, the holes or the notch may be made either in the inner plastic layer, or in the outer plastic layer, or in both. However, it is preferable that the holes do not penetrate into the light-metal layer in order not to damage its gas barrier function.

[0085] These holes or the notch may especially be made by laser as, for example, described in WO 98/29312. They may also be made by mechanical perforation of the plastic layer or layers before assembling the various layers of the film as described, for example, in EP-A-1 216 827.

[0086] From a more general point of view, it is preferable for the line of preferential tearing not to be made in the form of perforations passing through the entire thickness of the film forming the side wall in order to avoid contamination of the closed pouch, even if it is used in applications not requiring it to be sealed.

[0087] The line of preferential tearing 5 is preferably parallel to the sealing line 9. Thus, the stiffness given by the sealing line 9 in the zone of the line of preferential tearing 5 is substantially uniform over the entire length of the line of preferential tearing 5.

[0088] The line of preferential tearing 5 is preferably straight, which provides better guiding for the tear during opening in comparison with a curved line.

[0089] The line of preferential tearing 5 extends from a side edge of the pouch, which makes it possible to initiate the tear for opening from this edge.

[0090] The line of preferential tearing may extend to the other side edge of the pouch as shown, which makes it possible to completely open it over the entire width of the pouch.

[0091] The line of preferential tearing 5 may extend into the sealing zone or zones along the side edges 2 and 3, especially if the technique used for producing the line of preferential tearing does not adversely affect the leak tightness of the seal. Otherwise, it may stop in front of the side sealing zone or zones.

[0092] In particular, when the line of preferential tearing does not extend up to the seal of the side edge, but stops before the latter, it is advantageous to provide a notch in the seal of the side edge at the level of the line of preferential tearing 5. Such a notch makes it easier to initiate the tear through the side sealing zone on opening in order to join up with the line of preferential tearing 5 after the side sealing zone, the tear then propagating along the line of preferential tearing 5. Such a notch has been shown for each of the side edges 2 and 3 by the references 7 and 8.

[0093] To obtain good guiding of the tear along the line of preferential tearing, the distance "a" between the line of preferential tearing 5 and the sealing line 9 is less than or equal to 10 mm, preferably to 8 mm, more advantageously to 6 mm, even more advantageously to 4 mm, even to 2 mm or even better to 1 mm. The closer the line of preferential tearing 5 is to the sealing line 9, the better the tear is guided along the line of preferential tearing on opening. At the minimum, the distance "a" is consequently 0 mm. In practice one should take account of the tolerance in the positioning of the line of preferential tearing 5 with respect to the sealing line 9 that the production machinery is capable of observing. But there is no disadvantage when part of the width of the line of preferential tearing extends into sealing region 9.

[0094] Whatever the shape of the pouch and the arrangement chosen for the line of preferential tearing, it is to be understood that the distance "a" satisfies any one of the preferred maximum limits previously defined along at least 50% of the length of the line of preferential tearing 5, more advantageously over at least 75%, or even 90% of its length. It is even more

advantageous for the distance "a" to satisfy any one of the preferred maximum limits, for each point or at least on average, along the entire line of preferential tearing 5.

[0095] Where the line of preferential tearing consists of holes, one or more successive notches, one or more successive grooves or any other visible alteration to the film, the distance "a" is measured between the edge of the sealing line facing the line of preferential tearing and the mid-line of the holes, the notch(es), the groove(s) or of the visible alteration to the film. Similarly, the distance "d" between the pouch edge nearest the line of preferential tearing and the line of preferential tearing itself is measured between said pouch edge and the mid-line of the holes, the notch(es), the groove(s) or of the visible alteration to the film. An illustration thereof is given by Figure 3 in which the line of preferential tearing is formed by a succession of oblong holes 5a.

[0096] In the other cases, the distance "a" is measured between the edge of the sealing line on the side of the line of preferential tearing and the edge of the portion of the side wall exhibiting the sealing line which is obtained through tearing along the line of preferential tearing. Similarly, the distance "d" is measured between the pouch edge nearest the line of preferential tearing and the edge of the portion of the side wall exhibiting the sealing line which is obtained through tearing along the line of preferential tearing . An illustration thereof is given in Figure 4 which shows the upper portion of the pouch removed from the rest of the pouch after having torn the side wall along the line of preferential tearing 5.

[0097] To obtain improved guiding for the tear along the line of preferential tearing, it is advantageous for the second side wall of the pouch also to have a line of preferential tearing which is provided at the same level as the one on the first side wall. In other words, the two lines of preferential tearing face each other within the machine positioning tolerances. The tear, on opening, thus propagates advantageously in each side wall along the corresponding line of preferential tearing.

[0098] Figure 5 shows a particularly preferred alternative to the previous embodiment. The description given of the previous embodiment is completely applicable to the present embodiment, with the exception of the differences mentioned below. In particular, identical reference numbers denote the same elements.

[0099] The embodiment of Figure 5 is distinguished from the first embodiment by the fact that the side wall has a second line of preferential tearing referenced 6.

[0100] The second line of preferential tearing 6 extends parallel to the line of preferential tearing 5 below the level of the latter. The distance "c" between the two lines of preferential tearing 5 and 6 is preferably less than or equal to 8 mm, more advantageously to 5 mm in order to also provide correct guiding of the tear propagating, as the case may be, along the lower line 6.

[0101] Thus, the tear on opening may follow either of the two lines of preferential tearing 5 and 6. If the tear leaves one of the lines 5, 6, it may eventually rejoin the other and continue along the latter.

[0102] Similarly, it is possible to provide one or more additional parallel lines of preferential tearing below the line 6.

[0103] Where a line of preferential tearing consists of holes, one or more successive notches, one or more successive grooves or any other visible alteration to the film, the distance "c" is measured from the mid-line of the holes, of the notch(es), the groove(s) or of the visible alteration to the film. Figure 8 shows a partial view from the top of one side wall of the pouch in which the two lines of preferential tearing 5 and 6 are formed by a succession of holes 5a and 6a, respectively.

[0104] Otherwise, the distance "c" is measured from the edge of the portion of the side wall formed by the line of preferential tearing in question after tearing along the latter. An illustration thereof is given in Figure 9 in the case where neither of the two lines of preferential tearing 5 and 6 is formed by holes, notch(es), groove(s) or other visible alteration. The distance "c" is then measured after tearing along each of the lines of preferential tearing 5 and 6, which provides the strip of film between the latter which is enough to measure the width as indicated.

[0105] Moreover, the notch or notches 7, 8 serving to initiate the tear from the edge, when they are actually provided, are placed at a level between the two lines of preferential tearing 5 and 6. Thus, the notch or notches 7, 8 do not need to be positioned at an accurate level on the edge during manufacture unlike the first embodiment. This is because the tear in initiated at a notch is propagated at an intermediate level between the two lines of preferential tearing and rejoins one of

them if the tear deviates, in which case it propagates along the latter. To position the notches 7 and 8 at a level between the two lines of preferential tearing 5 and 6, it is preferable for the distance between the two lines of preferential tearing 5 and 6 to be at least equal to 2 mm.

[0106] Here again, it is advantageous for the second side wall of the pouch also to have two – or more – lines of preferential tearing similar to the first side wall which are provided substantially at the same level as those on the first side wall. Thus, the tear, on opening, advantageously propagates in each side wall along one of the lines of preferential tearing even if the lines of preferential tearing of each side wall are not exactly facing each other, but slightly offset to each other because of manufacturing tolerances. Figure 6 illustrates such a pouch at a stage where the opening tear is propagated on the line of preferential tearing 6 to the middle of the width of the pouch. Figure 7 shows a partial view of an upper corner of the pouch before the latter is closed by sealing the upper edge 1. It shows the two lines of preferential tearing 5, 6 present in each side wall 100, 101 at a corresponding level and the notch 7 located at a level between the lines of preferential tearing 5, 6.

[0107] Figure 10 shows a side wall of a pouch according to another embodiment. The description given of the embodiment of Figures 2 to 4 applies completely to the present embodiment, with the exception of the differences mentioned below. In particular, identical reference numbers denote the same elements.

[0108] As in the embodiment of Figure 2, the pouch of the present embodiment also has a single line of preferential tearing 5 on one of the side walls or on both of them. A notch 7 or 8 is provided on at least one edge of the pouch in order to make it easier to initiate the tear in order to open the pouch. The notch 7 or 8 is placed at a level intermediate between the line of preferential tearing 5 and the edge of the sealing line 9 on the side of the line of preferential tearing 5. This makes it possible to initiate the tear, in order to open the pouch, between the line of preferential tearing 5 and the sealing line 9. The tear then propagates between the line of preferential tearing 5 and the sealing line 9. The tear may possibly deviate towards the line of preferential tearing 5 until reaching it in which case it continues to propagate along the latter. Conversely, the tear may deviate towards the sealing line 9 until reaching it. In this case, the tear does not cross the sealing line 9, but tends to follow the edge thereof on the same side as the line of preferential tearing 5 because of the increased tear resistance in the sealing zone given by the seal. This is even more the case when the initial distance between the tear and the sealing line is small because of the position

of the notch and of the line of preferential tearing and therefore when the angle of attack for the tear towards the sealing line 9 is small. The edge of the sealing line 9 towards the line of preferential tearing 5 therefore acts as a barrier or guide for the tear, which gives an effect similar to a line of preferential tearing.

[0109] For this reason, in this embodiment, it is preferably the distance "e" between the edge of the sealing line on the side of the line of preferential tearing and the edge of the pouch closest to the line of preferential tearing – i.e. the upper edge of the pouch in our example – which is adanrageously greater to 9 mm, preferably 11 mm, more advantageously 13 mm, or even greater than 15 mm, even when the sealing line or lines occupy a strip of width "b" less than the preferred minimum values. In effect, the distance thus defined allows the user to get a good grasp on the outer edge region of the pouch extending down to this edge of the sealing line during opening. On the other hand, it is preferable for distance "e" to be less than or equal to 60 mm – more advantageously to 40 mm, or even to 30 mm - in order to limit the amount of film required to produce the pouch.

[0110] Regardless of the shape of the pouch and the arrangement adopted for the line of preferential tearing, it is to be understood that the distance "e" between the edge of the sealing line nearest the line of preferential tearing and the edge of the pouch closest to the line of preferential tearing , satisfies for each point or at least on average any one of these preferred minimum limits throughout that part of the length of this pouch edge which faces the line of preferential tearing. Similarly, it is to be understood that the distance "e" satisfies for each point or at least on average any one of these preferred maximum limits over that part of the length of this pouch edge which faces the line of preferential tearing.

[0111] Of course, the present invention is not limited to the examples and to the embodiments described and shown, but it is capable of many variants accessible to a person skilled in the art. Thus, the upper edge 1 and the sealing line 9 of the pouch may be curved instead of straight. In this case, the line(s) of preferential tearing may also be curved instead of being straight. In particular, their curvature may correspond to a downward translation of the curve defined by the sealing line 9 such that the curve formed by the line(s) of preferential tearing is parallel to the sealing line. In the latter case, if the sealing line has a certain width – that is to say has the shape of a sealing strip -, the curve defined by the sealing line extends as if it were the line formed by the edge of the sealing line on the same side as the line of preferential tearing.

[0112] Moreover, the line(s) of preferential tearing 5 and 6 may not extend over the entire width of the pouch from the first side edge 2 to the second side edge 3. For example, they may extend from a side edge to the mid-width of the pouch so as to limit the opening length of the pouch. In this case, the line(s) of preferential tearing may extend through the upper seal 9 so as to allow the complete removal of the top portion of the pouch defined by the line(s) of preferential tearing.

[0113] Films other than those described may be used, such as, for example, films not having a light-metal layer and/or using other plastics.

[0114] The invention is advantageously applicable to pouches designed to contain foodstuffs, especially moist foodstuffs. In particular, it is advantageously applicable to pouches sealed against gas after closure, especially those intended to undergo sterilization treatments by heat treatment. Nevertheless, it is also applicable to pouches which are not sealed against gas. More generally, it is advantageously further applicable to pouches containing loose products of any type. It may for example be applicable to pouches or bags containing loose confectionery.

[0115] The invention is applicable to pouches of any dimensions and shapes.

[0116] Where the lines of preferential tearing extend from a side edge towards another side edge of the pouch, or even until reaching this other side edge, especially along an upper sealing line as described in the embodiments, it is preferable for the distance between the side edges of the pouch – measured in a straight line at the level of the line(s) of preferential tearing along its/their general direction – to be at least equal to 20 mm, more advantageously to at least 40 mm, more advantageously again to at least 60 mm, even to at least 80 mm. This is because the wider the pouch at the level of the lines of preferential tearing, the greater the positive effect of the invention on guiding the tear on opening. In the case of pouches having two parallel side edges – especially rectangular pouches – and having one or more straight lines of preferential tearing extending perpendicularly to the side edges, the minimum distance between previously defined side edges corresponds to the width of the pouch.

[0117] Moreover, the height of the pouch – measured from the bottom of the pouch to the lower edge of the sealing line – is preferably at least 60 mm, even at least 100 mm in order to provide a good handgrip for the user.

[0118] The invention is not only applicable to pouches of the "Doypack®" type, but also to any other type of pouch such as flat pouches (called "pillow pouches") welded on three or four sides or else pouches with side bellows, as described for example in WO 98/29312.